MERENKULKUHALLITUKSEN

TIEDOTUSLEHTI

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EQUIVALENTS TO RADIOTELEGRAPH STATIONS

Two decisions on arrangements equivalent to radiotelegraph stations, one pertaining to ships in worldwide trade, the other to ships engaged on voyages in the Baltic Sea, the North Sea and to the Irish Sea, were taken by the Finnish National Board of Navigation on January 23 1989.

These decisions reverse the September 5 1983 Decision (1673/83/309) of the National Board of Navigation on ships in worldwide trade, the April 28 1986 Decision (1031/86/301) of the National Board of Navigation on ships engaged on voyages in the Baltic Sea and the North Sea, and the November 24 1986 Amendment (2839/86/581) to these Decisions.

The new decisions enter into force on January 23 1989.

The decisions are followed by a description of the new Global Maritime Distress and Safety System (GMDSS). With respect to new vessels it shall apply not later than February 1 1992 and with respect to all vessels not later than February 1 1999.

Head of the Maritime Department,
Maritime Counsellor — Heikki Valkonen

Maritime Inspector — Pekka Korhonen

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Decision of the Finnish National Board of Navigation on arrangements equivalent to radiotelegraph stations on ships in worldwide trade.

Helsinki, January 23 1989 (KD 202/00/89).

In accordance with Chapter I Regulation 5 of the International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974), the Finnish National Board of Navigation has decided to approve the installation of a ship earth station (SES) and an improved MF/HF station on Finnish ships as equivalent to the radiotelegraph station prescribed in Regulation 3 and described in Regulation 10 of Chapter IV.

Conditions for granting equivalent arrangements to ships required to carry a radiotelegraph installation and engaged on voyages in worldwide trade (except polar areas beyond INMARSAT coverage) are that they carry the radio equipment and maintain the radio listening watch prescribed in the Annex.

The ship shall carry a Safety Radiotelegraphy Certificate and a radio operator, who need not be on watch. The National Board of Navigation may, if it considers the requirements unreasonable in view of the sea area for which the ship is equipped, exempt the ship from the requirements to carry a radio operator.

This Decision reverses the September 5 1983 Decision (1673/83/309) of the National Board of Navigation on arrangements equivalent to radiotelegraph stations on ships in worldwide trade, and the November 24 1986 Amendment (2839/86/581) to it.

ANNEX

ARRANGEMENTS EQUIVALENT TO RADIOTELEGRAPH STATIONS

1 Radio equipment

The ship shall carry the following radio installations:

.1 an MF/HF radio apparatus,
the installation shall have a distress alerting device and the range of the transmitter shall be no less than 200 nautical miles (in practice this range is achieved with an ordinary 250 W PEP ship antenna)

.2 a VHF radio apparatus,
the installation shall have all international channels for voice communication

.3 a watch receiver on the frequency 2,182 kHz,

.4 a NAVTEX receiver (if the ship operates in areas within NAVTEX coverage),
the installation shall have an A classification approval by CEPT

.5 an INMARSAT ship earth station,
the installation shall be suitable for at least telex communication

.6 a satellite EPIRB on the frequency 406 MHz.

The ship shall carry a radiotelegraph reserve installation prescribed in Chapter IV Regulation 10 of the SOLAS Convention. The range of the transmitter shall be no less than 150 nautical miles and the installation shall be operated from both the main and the reserve source of energy. The installation shall be fitted with a distress alert to the navigating bridge. If the ship does not carry a radio operator, the installation shall be connected with a recorder which is automatically switched on by the alert and which records all subsequent messages.

Apart from the exceptions above, the ship's radio installations shall fulfil the requirements in the 1974 SOLAS Convention and the Amendments to it. The reserve antenna prescribed in Chapter IV 10(a) (iv) is not, however, necessary if the ship earth station can be operated from the reserve source of energy for at least 6 hours.

The ship shall be fitted with the following installations as soon as installations approved by the Telecommunications Administration Centre are available:
(1) a DSC installation in the MF/HF frequency band,
(2) a DSC installation in the VHF frequency band,
(3) 2 radar transponders (SART) for use in search and rescue operations, and
(4) INMARSAT EGC, if the ship is engaged on voyages beyond the coverage of NAVTEX.

In addition, the ship shall be fitted with direction-finders and radar devices in accordance with Chapter V of the SOLAS Convention and with portable VHF radiotelephone apparatus with at least channels 16 and 15 and/or 17 for survival craft in accordance with the 17 June 1983 Amendment to the SOLAS Convention (Regulation III.6).

2 Sources of electrical power

The MF and VHF radio installations and the DSC installation shall be operated by the ship's main source of energy and the reserve source of energy prescribed in SOLAS Chapter II-I.

The INMARSAT ship earth station shall be operated by the ship's main source of energy and by the reserve source of energy prescribed in SOLAS Chapter II-I.

The watch receiver on the frequency 2,182 kHz and the NAVTEX receiver shall be operated by the ship's main source of energy.

Transition from operation by the main source of energy to the reserve source of energy may take place automatically only if the installation is provided with a clear indication of the source of energy used.

In the event of failure of the ship's main and reserve sources of energy the following installations shall be available:
1 the VHF radio apparatus and DSC together with either
.1 the MF radio apparatus and DSC,

.2 the MF/HF radio installation with DSC, or
.3 the INMARSAT SES,
which shall be operated by a different source of energy as follows:
on ships constructed on 1 February 1995 or later for at least one hour,
on ships constructed before 1 February 1995 for at least an hour, if the ship fulfils the requirements in Regulation 42 or 43 of the new Chapter II-I, and for at least six hours, if she does not fulfil the said requirements.

3 Location of ship radio installations

On the navigating bridge it shall be possible to:
.1 maintain an effective listening watch on the frequency 2,182 kHz and on VHF channel 16;
.2 maintain a direct listening watch of the radiocommunication working frequency of any MF coast radio station in the area as well as of any channel for VHF radiocommunications;
.3 use the radio transmitter at least on the frequency 2,182 kHz and on any channel for radiocommunication; and
.4 receive an alert from the NAVTEX receiver on messages relating to search and rescue operations.

If the ship is provided with an MF/DSC installation, it shall be possible to
(a) send a DSC distress alert, and
(b) receive an alert from the DSC installation on messages relating to distress situations or the safety of navigation
on the navigating bridge.

A satellite EPIRB (or several if necessary) shall be installed on board in such manner that it is always float-free in case the ship sinks.

The INMARSAT ship earth station shall be installed on board in accordance with the guidelines of the INMARSAT organization and MSC/circ. 419 of IMO.

When installing radio equipment, antennae and equipment other than radio apparatus, the requirements for radiotelephone stations of Chapter IV of the SOLAS Convention shall be fulfilled as far as is applicable.

4 Watching radio frequencies

At sea the ship shall maintain a continuous listening watch of
.1 frequency 500 kHz on the navigating bridge;
.2 frequency 2,182 kHz on the navigating bridge;
.3 VHF channel 16 on the navigating bridge;
.4 NAVTEX frequency 518 kHz on the navigating bridge;
.5 DSC frequency 2,187.5 kHz, if the ship is fitted with DSC facilities, and
.6 DSC on VHF channel 70, if the ship is fitted with DSC facilities.

5 Radio personnel - qualifications

The watchkeeper shall hold a General Certificate of Proficiency in Radiotelephony and have passed an additional examination pertaining to the operation of the GMDSS, radio equipment and its use and radiocommunication procedure.

(The ship shall always carry at least one certificate holder, who has passed the said examination.)

However, a ship which does not carry a radiotelephone operator with the said proficiency and who is not employed full-time, shall carry two such persons; SOLAS, Chapter IV, Regulation 7.)

Decision of the Finnish National Board of Navigation concerning arrangements equivalent to radiotelegraph stations on ships engaged on voyages in the Baltic Sea, the North Sea and to the Irish Sea.

Helsinki, January 23 1989 (KD 202/00/89).

In accordance with Chapter I Regulation 5 of the 1974 International Convention for the Safety of Life at Sea (SOLAS 1974) and the Guidelines of the 52nd Session of the Maritime Safety Committee (MSC circ. 417) of the International Maritime Organization, the Finnish National Board of Navigation has decided to approve the equivalent arrangements below by which the radiotelegraph station prescribed in Chapter IV Regulation 3 of the said Convention may be replaced on ships engaged on voyages in the Baltic Sea, the North Sea and to the Irish Sea.

Each ship applying equivalent arrangements shall be fitted with radio installations in accordance with the appendix below and maintain a listening watch prescribed therein.

The ship does not need a radio operator. An exemption certificate mentioned in Regulation IV.5 of the Convention is granted to the ship.

This Decision reverses the April 28 1986 Decision (1031/86/301) of the National Board of Navigation concerning arrangements equivalent to radiotelegraph stations on ships engaged on voyages in the Baltic Sea and the North Sea, and the November 24 1986 Amendment (2839/86/581) to it.

ANNEX

ARRANGEMENTS EQUIVALENT TO RADIOTELEGRAPH STATIONS

1 Radio equipment

The ship shall carry the following radio installations:
.1 an MF radio apparatus,

the installation shall have a distress alerting device and the range of the transmitter shall be no less than 200 nautical miles (in practice this range is achieved with an ordinary 250 W PEP ship antenna)

.2 a VHF radio apparatus,
the installation shall have all international channels for voice communication

.3 a watch receiver on the frequency 2,182 kHz,

.4 a NAVTEX receiver (if the ship operates in areas within NAVTEX coverage),
the installation shall have an A classification approval by CEPT

.5 an INMARSAT ship earth station,
the installation shall be suitable for at least telex communication

.6 a satellite EPIRB on the frequency 406 MHz.

The ship shall be fitted with the following installations as soon as installations approved by the Telecommunications Administration Centre are available:
(1) a DSC installation in the MF frequency band,
(2) 2 radar transponders (SART) for use in search and rescue operations, and
(3) a DSC installation in the VHF frequency band.

With respect to the requirements concerning the INMARSAT ship earth station exemptions can be granted if
(1) the ship carries MF-DSC equipment,
(2) the ship is engaged on voyages solely in an area covered by MF-DSC coast radio stations,
(3) the ship carries an HF-DSC installation or a 1,6 GHz (INMARSAT) satellite EPIRB or a second satellite EPIRB on the frequency 406 MHz.

In addition, the ship shall be provided with direction-finders and radar devices in accordance with Chapter V of the SOLAS Convention and with portable VHF radio telephone apparatus with at least channels 16 and 15 and/or 17 for survival craft in accordance with the 17 June 1983 Amendment to the SOLAS Convention (Regulation III.6).

2 Sources of electrical power

The MF and VHF radio apparatus and the DSC installation shall be operated by the ship's main source of energy and the reserve source of energy prescribed in SOLAS Chapter II-I.

The INMARSAT ship earth station shall be operated by the ship's main source of energy and by the reserve source of energy prescribed in SOLAS Chapter II-I.

The watch receiver on the frequency 2,182 kHz and the NAVTEX receiver shall be operated by the ship's main source of energy.

Transition from operation by the main source of energy to the reserve source of energy may take place automatically only if the installation is provided with a clear indication of the source of energy used.

In the event of failure of the ship's main and reserve sources of energy the following installations shall be available:
1 the VHF radio apparatus and DSC together with either
.1 the MF radio apparatus and DSC,
.2 the MF/HF radio installation with DSC, or
.3 the INMARSAT SES,
which shall be operated by a different source of energy as follows:
on ships constructed on 1 February 1995 or later for at least one hour,
on ships constructed before 1 February 1995 for at least an hour, if the ship fulfils the requirements in Regulation 42 or 43 of the new Chapter II-I, and for at least six hours, if she does not fulfil the said requirements.

3 Location of ship radio installations

On the navigating bridge it shall be possible to:
.1 maintain an effective listening watch on the frequency 2,182 kHz and on VHF channel 16;
.2 maintain a direct listening watch of the radiocommunication working frequency of any MF coast radio station in the area and of any channel for VHF radiocommunications;
.3 use the radio transmitter at least on the frequency 2,182 kHz and on any channel for radiocommunication; and
.4 receive an alert from the NAVTEX receiver on messages relating to search and rescue operations.

If the ship is provided with an MF/DSC installation, it shall be possible to
(a) send a DSC distress message, and
(b) receive an alert from the DSC installation on messages realting to distress situations or the safety of navigation
on the navigating bridge.

A satellite EPIRB (or several if necessary) shall be installed on board in such manner that it is always float-free in case the ship sinks.

The INMARSAT ship earth station shall be installed on board in accordance with the guidelines of the INMARSAT organization and IMO MSC/circ. 419.

When installing radio equipment, antennae and equipment other than radio apparatus, the requirements for radiotelephone stations of Chapter IV of the SOLAS Convention shall be fulfilled as far as is applicable.

4 Watching radio frequencies

At sea the ship shall maintain a continuous listening watch of
.1 frequency 2,182 kHz;
.2 VHF channel 16;
.3 NAVTEX frequency 518 kHz;
.4 DSC frequency 2,187.5 kHz, if the ship is fitted with DSC facilities, and
.5 DSC on VHF channel 70, if the ship is fitted with DSC facilities.

5 Radio personnel - qualifications

The watchkeeper shall hold a General Certificate of Proficiency in Radiotelephony and have passed an additional examination pertaining to the operation of the GMDSS, to radio equipment and its use and radiocommunication procedure.

(The ship shall always carry at least one certificate holder, who has passed the said examination.)

However, a ship of no less than 500 GRT, which does not carry a radiotelephone operator with the said proficiency and who is not employed full-time, shall carry two such persons; SOLAS, Chapter IV, Regulation 7.)

THE NEW GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)

The radio sub-committee of IMO (the International Maritime Organization) has been working on a project for a new maritime distress and safety system (GMDSS) since 1979. In the system sea areas are divided into four categories:

A1 - areas within coverage of the VHF (ULA) DSC coast stations;
A2 - areas within coverage of MF DSC coast stations (excluding sea area A1);
A3 - areas within INMARSAT satellite coverage (excluding sea areas A1 and A2);
A4 - remaining sea areas (mainly polar).

At the autumn 1988 conference necessary amendments to the International Convention for the Safety of Life at Sea (SOLAS) were made. They shall enter into force with respect to new vessels on 1 February 1992. Below is a short chapter-by-chapter description of amendments, set terms and requirements for equipment.

Chapter II-I. Emergency source of electrical power (added to Regulation 42 and 43)

1 On ships constructed on or after 1 February 1995

.1 a VHF radio installation, DSC alerting and listening watch on DSC;

.2 a MF radio installation, DSC alerting and listening watch on DSC;
.3 an INMARSAT ship earth station, and
.4 an MF/HF radio installation, DSC alerting and watchkeeping on DSC.

On passenger ships the installations shall be operated by a reserve source of power for a period of at least 36 hours and on cargo ships ($\geq$ 300 GRT) for at least 18 hours. Requirements for installations depend on the sea area which the ship is operating in.

In addition, Regulation 13 of the new Chapter IV prescribes that in the event of failure of the ship's main and emergency sources of energy the following radio equipment

1 the VHF radio installation/DSC and one of the following
2 the MF radio installation/DSC
or
3 the MF/HF radio installation/DSC
or
4 INMARSAT SES

shall, however, be operated by energy from a different source of electrical power as follows
(a) on ships constructed on or after 1 February 1995 not less than an hour,
(b) on ships constructed before 1 February 1995
- not less than an hour, if the ship fulfils the requirements of Regulation 42 or 43 of the new Chapter II-I, and
- not less than six hours, if she does not fulfil the said requirements.

Chapter III

1 Cargo ships of $\geq$ 300 - < 500 GRT
2 Cargo ships of $\geq$ 300 - < 500 GRT constructed before 1 February 1992
3 Convention ships
4 Convention ships constructed before 1 February 1992. (Until 1 February 1995 they shall fulfil the requirements of the 1983 Amendment on radiocommunications)

Two way VHF	1. 2	1.2.92
	2. 2	1.2.95
	3. 3	1.2.92
	4. 3	1.2.95
SART	1. 1	1.2.92
	2. 1	1.2.92
	3. 2 (1+1)	1.2.92
	4. 2 (1+1)	1.2.95

Chapter V

1 Convention ships of ≥ 500 GRT constructed on or after 1 September 1984 and convention ships of ≥ 1,600 GRT constructed before that time shall be fitted with a radar device (applies to both passenger and cargo ships).

2 Other passenger ships as well as cargo ships of ≥ 300 GRT shall be fitted with

9 GHz radar device	1. 1	1.2.95
	2. 1	1.2.95.

Ships of ≥ 1,600 GRT shall be fitted with a direction-finder.
Ships of ≥ 1,600 GRT constructed between 25 May 1980 and 1 February 1995 shall be fitted with a homing device until 1 February 1999.

Chapter IV. Passenger ships, and cargo ships of ≥ 300 GRT

Passenger ships constructed before 1 February 1995 and cargo ships of ≥ 300 GRT shall fulfil

1 all requirements of the new Chapter IV during the period 1 February 1992 - 1 February 1999, or
2 all requirements of the old Chapter IV until 1 February 1999.

From 1 February 1999 all ships shall fulfil the requirements of the new Chapter IV.

All ships constructed on or after 1 February 1995 shall fulfil the requirements of the new Chapter IV.

Equipment required

1 The VHF radio installation with digital selective calling (DSC) on channel 70 and DSC-watch. In addition, it shall operate on all other channels required. Listening watch on channel 16 until 1 February 1999 (unless prescribed otherwise by MSC).

2 A radar transponder (SART). May be the same installation (one of them) as prescribed in the new Chapter III, Regulation 6.2.2.

3 A satellite EPIRB on the frequency 406 MHz not later than 1 August 1993. May be replaced by a 1.6 GHz satellite EPIRB, if the ship is engaged on voyages in areas covered by INMARSAT only, or by a VHF EPIRB, if the ship operates only in A1 areas. In addition, the VHF EPIRB shall be fitted with a radar transponder on the frequency 9 GHz.

4 A NAVTEX receiver or an INMARSAT EGC in areas within INMARSAT coverage but beyond the area for NAVTEX transmissions or HF NBDP installations on ships operating in areas with HF coverage only. Each ship shall be fitted with a NAVTEX receiver before 1 August 1993.

5 A watch receiver on the radiotelephone distress frequency (2,182 kHz) until 1 February 1999 (unless otherwise prescribed by MSC).

6 Distress alerting device on radiotelephony until 1 February 1999 (not required on ships operating in sea area A1 only).

Additional radio installation requirements according to sea area

Sea area A1

1 A radio installation capable of initiating the transmission of ship-to-shore distress alerts from the navigating bridge, operating either:
.1 on VHF using DSC (channel 70). This requirement may be fulfilled by a VHF EPIRB, which shall also have a radar transponder on the frequency 9 GHz; or
.2 through a satellite EPIRB on 406 MHz; or
.3 on MF using DSC (if the ship is engaged on voyages within coverage of MF coast stations equipped with DSC); or
.4 on HF using DSC; or
.5 through an INMARSAT ship earth station; or
.6 through an INMARSAT satellite EPIRB on 1.6 GHz.

Sea area A2 (ships operating in sea areas A1 and A2)

1 An MF radio installation capable of transmitting and receiving on the frequency 2,187.5 kHz using DSC and maintenance of a listening watch. In addition, the frequency 2,182 kHz is required.

2 A satellite EPIRB on 406 MHz or
a HF using DSC, or
an INMARSAT ship earth station, or
a satellite EPIRB (INMARSAT) on 1.6 GHz.

3 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications using radiotelephony or direct-printing telegraphy by either:

.1 a radio installation operating on working frequencies in the bands between 1,605 kHz and 4,000 kHz or between 4,000 kHz and 27,500 kHz;
or
.2 an INMARSAT ship earth station.

Sea area A3 (ships operating in sea areas A1, A2 and A3)

The requirements include installations complying with either a or b:

a

1 An INMARSAT ship earth station (SES) capable of transmitting and receiving distress and safety communications using direct-printing telegraphy and maintaining watches.

2 An MF radio installation capable of transmitting and receiving for distress and safety purposes on the frequencies 2,187.5 kHz and 2,182 kHz. In addition, maintenance of watch on the frequency 2,187.5 kHz.

3 Means of initiating the transmission of ship-to-shore distress alerts by a radio service controlled from the bridge and operating either:

.1 by a satellite EPIRB on 406 MHz;
or

.2 on HF using DSC;
or

.3 INMARSAT ship earth station;
or

.4 an (INMARSAT) satellite EPIRB on 1.6 GHz.

b

1 An MF/HF radio installation in the frequency band between 1,605 kHz and 27,500 kHz. The installation shall be provided with
DSC and DSC-watch;
radiotelephony (also general radiocommunications);
radiotelex (NBDP).

2 In addition, it shall be possible to initiate transmission of distress alerts by installations controlled from the navigating bridge, as follows:
a satellite EPIRB on 406 MHz;
or
an INMARSAT ship earth station;
or
an (INMARSAT) satellite EPIRB on 1.6 GHz.

Sea area A4 (ships operating in sea areas A1, A2, A3 and A4)

1 An MF/HF radio installation in the frequency band between 1,605 kHz and 27,500 kHz. The installation shall be provided with:
DSC and DSC-watch;
radiotelephony;
radiotelex (NBDP).

2 In addition, it shall be possible to initiate transmission of distress alerts by installations controlled from the navigating bridge, as follows:
a satellite EPIRB on 406 MHz.

Maintenance requirements

1 The method for controlling that radio equipment is maintained to provide the availability of functional requirements on ships engaged on voyages in sea areas A1 and A2 are approved by the National Board of Navigation. The method may comprise
.1 duplication of equipment; or
.2 shore-based maintenance; or
.3 at-sea electronic maintenance capability; or
.4 a combination of these.

2 The method for controlling that radio equipment is maintained to provide the availability of functional requirements on ships engaged on voyages in sea areas A3 and A4 are approved by the National Board of Navigation. The method shall comprise at least two of the following alternatives:
.1 duplication of equipment;
.2 shore-based maintenance;
.3 at-sea electronic maintenance capability.